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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/785,255	02/23/2004	Gopal Agarwal	678-1356	8891

66547 7590 10/02/2007

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EXAMINER	
TRAN, KHUONG N	
ART UNIT	**PAPER NUMBER**
2609	

MAIL DATE	DELIVERY MODE
10/02/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/785,255	AGARWAL, GOPAL	
	Examiner	Art Unit	
	Khuong Tran	2609	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *23 February 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-12* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-12* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *23 February 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1-12 are rejected under 35 U.S.C. 102(e) as being anticipated by Kohno (US Publication No. 2005/0182850).

Regarding claim 1, Kohno teaches an information processing method in a packet-switched network using a transmission scheme that involves exchanging sender report (SR) and receiver report (RR) between the sender server and the receiver terminal **[paragraph 0011, lines 1-4]**.

According to the teaching, the sender server sends a sender report to the receiver terminal at a predetermined time. **Figure 3** illustrates a typical structure of a sender report (SR). This report constitutes information that is sent periodically from the sender server to the receiver terminal. Furthermore, the report includes information representing transmission data packets such as a

header, transmission information about transmitted data, and at least one receiver report block **[paragraph 0015]**.

Subsequently, the receiver terminal periodically transfers a receiver report (RR) to the sender server **[paragraph 0012, lines 2-4]**. As shown in **Figure 2**, the receiver report consists of a header and two blocks. Block 1 of the report constitutes information created by the receiver terminal based on a packet received from a sender server. Such important information entails a synchronizing source identifier that identifies the sender having sent the packet as well as packet loss rate, a cumulative packet loss count, a maximum received sequence number and so forth **[paragraph 0014]**.

The teaching also discloses an error correcting method that's capable of transmitting a Negative Acknowledgement (NACK) packet when lost packets are detected. A NACK packet contains information relating to the received data packets such as a header, a format type, a packet length, a synchronizing source identifier of the sender as supplemented by Figure 8 **[paragraph 0087, lines 3-9]**. In the case of lost packets, the packet creation unit **46** that resides within the receiver terminal creates a repeat request NACK and sends it to the server **[Figure 6, paragraph 0086]**. Hence, the receiving side periodically polls a receiver window as it sends repeat request NACK packets to the server to get the lost packets.

Referring to **Figure 9**, the sender server receives the repeat request NACK packet from the receiver terminal at port **65**. Subsequently the packet analysis unit **66** analyzes the NACK packet; the packet lost detection unit **67**

determines the packet loss rate applicable to data transfer from the user terminal to the server. The error correcting procedure concludes with the error processing unit 68 sending the lost packets repeatedly to the receiver terminal **[Figure 9, paragraph 0092-0093]**. Therefore, based on the NACK packet received, an equivalence of a Negative Acknowledgement Reply (NACKR) packet is sent from the server after a series of steps is taken as taught by Kohno.

Regarding claim 2, Kohno discloses in **Figure 3** the typical structure of a sender report packet used in the system. In addition to the important information such as header and payload type, there is also a field for maximum received sequence number. As shown in **Figure 3**, block 1 of the report contains the synchronizing source identifier of sender b1 and block 2 contains the synchronizing source identifier of sender b2. Based on this fact and the properties of audio and video data that apply to this teaching **[paragraph 0007, lines 5-10]**, it is inherent that a sender report (SR) must contain information about the next sequence number. Furthermore, **Figure 3** illustrates that a sender report includes a field labeled as Transmitted Packet Count, which denotes a number of transferred packets.

Regarding claim 3, Kohno discloses in the drawing of **Figure 2** a typical structure of the receiver report RR. The report contains a header and two blocks, where block 1 of the report contains the synchronizing source identifier of sender a1 and block 2 contains the synchronizing source identifier of sender a2. It is further noted that there are as many receiver report blocks attached to the receiver report as the number of packets from each sender from the time the

receiver terminal sent the preceding receiver report until this receiver report is transmitted **[paragraph 0016]**. Based on this fact and the properties of audio and video data that apply to this teaching **[paragraph 0007, lines 5-10]**, it is inherent that a receiver report (RR) must contain information about the next sequence number. The data field Maximum Received Sequence Number is the equivalence of the ACK sequence number as it denotes the last sequence number received from the sender report. Furthermore, **Figure 2** illustrates that a receiver report includes a field labeled as Cumulative Lost Packet Count, which includes sequence numbers that are not received. Therefore, the lowest sequence number should be contained in the Cumulative Lost Packet Count data field. Since the exemplary structure of the receiver report RR includes information about lost packets, it is inherent to retain information about the received packets as well.

Regarding claim 4, Kohno discloses in **Figure 8** the structure of a NACK packet sent from the user terminal. The packet contains a repeated-designated packet count corresponding to the lost packets detected from the header information and repeat-designated sequence numbers **[paragraph 0087, 10-15]**. Additionally, **Figure 14** shows the NACK packet being sent from the user terminal 1 has the lowest sequence number 4 of the lost packets and the next sequence numbers 5 and 6 as well.

Regarding claim 5, Kohno discloses an error processing unit **68** of the server in **Figure 9** that is capable of sending packets to be repeated a plurality of times in response to the NACK of the lost packets **[paragraph 0093, lines 5-7]**.

As stated in claim 4, based on the properties of an exemplary NACK packet, it is inherent that the sender server would reply with a NACKR packet that includes the retransmission of the lowest sequence number and the successive sequence numbers of the lost packets corresponding to the request of the NACK packet sent from the user terminal.

Regarding claim 6, Kohno discloses in **Figure 9** a structure of the sender server that covers the limitations as claimed. The error processing unit **68** performs the functions similar to that of the control unit which transfers the lost packets base on the request of the NACK packets of the clients **[paragraph 0093, lines 5-7]**. Hence correcting the fault that occurs from the lost packets in data transmission. Additionally the clients have to be in activated state in order to send request NACK packets to the server in the first place.

The apparatus in **Figure 9** features a sending port **64** and a receiving port **65** that are connected to the error processing unit **68** to establish data communication with clients. The packet analysis unit **66** analyzes the packet of the repeat request NACK or of the receiver report RR transmitted from the clients **[paragraph 0092, lines 1-3]**. Thus the packet analysis unit 66 is capable of detecting the transmitting states of the clients since it can distinguish whether a packet received from the client is a receiver report or a repeat request NACK in case of an error for lost transmission packet. Furthermore, it is disclosed in **Figures 2** and **8** that both RR and NACK packets sent to the server contain a data field labeled synchronizing source identifier of sender, which the packet analysis unit **66** can use to identify the clients. Therefore the memory RAM13

stores the client information depending on their activating states since the clients have to be active in order to send receiver report RR and NACK packets to the server. Sequence numbers for clients are also stored in a list AL that resides the memory as taught by Kohno.

Figure 11 shows the flow chart of the packet loss rate calculation process performed by the server as outlined in **Figure 4**. As noted in step s2, the packet analysis unit **66** acquires a sequence number from the receiver report RR. In step s3, the sequence number is added to the a sequence number list AL. This list is held in the RAM 13 and is reset when a sender report SR is transmitted **[paragraph 0101]**.

Regarding claim 7, Kohno discloses in **Figure 3** the typical structure of a sender report packet used in the system. In addition to the important information such as header and payload type, there is also a field for maximum received sequence number. As shown in **Figure 3**, block 1 of the report contains the synchronizing source identifier of sender b1 and block 2 contains the synchronizing source identifier of sender b2. Based on this fact and the properties of audio and video data **[paragraph 0007, lines 5-10]** that apply to this teaching, it is inherent that a sender report (SR) must contain information about the next sequence number. Furthermore, **Figure 3** illustrates that a sender report includes a field labeled as Transmitted Packet Count, which denotes a number of transferred packets.

Regarding claim 8, Kohno discloses in the drawing of **Figure 2** a typical structure of the receiver report RR. The report contains a header and two blocks,

where block 1 of the report contains the synchronizing source identifier of sender a1 and block 2 contains the synchronizing source identifier of sender a2. It is further noted that there are as many receiver report blocks attached to the receiver report as the number of packets from each sender from the time the receiver terminal sent the preceding receiver report until this receiver report is transmitted **[paragraph 0016]**. Based on this fact and the properties of audio and video data that apply to this teaching **[paragraph 0007, lines 5-10]**, it is inherent that a receiver report (RR) must contain information about the next sequence number. The data field Maximum Received Sequence Number is the equivalence of the ACK sequence number as it denotes the last sequence number received from the sender report. Furthermore, **Figure 2** illustrates that a receiver report includes a field labeled as Cumulative Lost Packet Count, which includes sequence numbers that are not received. Therefore, the lowest sequence number should be contained in the Cumulative Lost Packet Count data field. Since the exemplary structure of the receiver report RR includes information about lost packets, it is inherent to retain some information about the received packets as well.

Regarding claim 9, Kohno discloses an error correcting method that's capable of transmitting a Negative Acknowledgement (NACK) packet when lost packets are detected. A NACK packet contains information relating to the received data packets such as a header, a format type, a packet length, a synchronizing source identifier of the sender as supplemented by **Figure 8** **[paragraph 0087, lines 3-9]**. In the case of lost packets, the packet creation unit

46 that resides within the receiver terminal creates a repeat request NACK and sends it to the server **[Figure 6, paragraph 0086]**. Hence, the receiving side periodically polls a receiver window as it sends repeat request NACK packets to the server to get the lost packets.

Regarding claim 10, Kohno discloses in **Figure 8** the structure of a NACK packet sent from the user terminal. The packet contains a repeated-designated packet count corresponding to the lost packets detected from the header information and repeat-designated sequence numbers **[paragraph 0087, 10-15]**. Additionally, **Figure 14** shows the NACK packet being sent from the user terminal 1 has the lowest sequence number 4 of the lost packets and the next sequence numbers 5 and 6 as well.

Regarding claim 11, according to **Figure 9**, the sender server receives the repeat request NACK packet from the receiver terminal at port **65**. Subsequently the packet analysis unit **66** analyzes the NACK packet; the packet lost detection unit **67** determines the packet loss rate applicable to data transfer from the user terminal to the server. The error correcting procedure concludes with the error processing unit 68 sending the lost packets repeatedly to the receiver terminal **[Figure 9, paragraph 0092-0093]**. Therefore, based on the NACK packet received, an equivalence of a Negative Acknowledgement Reply (NACKR) packet is sent from the server after a series of steps is taken as taught by Kohno.

Regarding claim 12, Kohno discloses an error processing unit **68** of the server in **Figure 9** that is capable of sending packets to be repeated a plurality of times in response to the NACK of the lost packets **[paragraph 0093, lines 5-7]**.

As stated in claim 4, based on the properties of an exemplary NACK packet, it is inherent that the sender server would reply with a NACKR packet that includes the retransmission of the lowest sequence number and the successive sequence numbers of the lost packets corresponding to the request of the NACK packet sent from the user terminal.

Conclusion

3. Any response to this Office Action should be **faxed** to (571) 273-8300 or **mailed** to:

Commissioner for Patents,
P.O. Box 1450
Alexandria, VA 22313-1450

Hand-Delivered responses should be brought to
Customer Service Window
Randolph Building
401 Dulany Street
Alexandria, VA 22314

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Khuong Tran, whose telephone number is (571) 270-3522. The examiner can normally be reached Mon-Fri from 7:30AM - 5:00PM.

5. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Benny Q. Tieu, can be reached at (571) 272-7490. The

fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

6. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published application may be obtained from either Private PAIR or Public PAIR. Status information for unpublished application is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have question on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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September 24, 2007

BENNY Q. TIEU
SPE/TRAINER